



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26
INFORMATION TECHNOLOGY

Annexure – I

CREDIT FRAMEWORK STRUCTURE

Semester		I	II	III	IV	V	VI	VII	VIII	Total Credits
Basic Science Course	BSC/ESC	7	7							14
Engineering Science Course		6	6							12
Program Core Course (PCC)	Program Courses	2	2	13	10	7	4	6		44
Program Elective Course (PEC)						4	6	6	4	20
Multidisciplinary Minor (MDM)	Multidisciplinary Courses			2	3	3	3	3		14
Open Elective (OE) Other than a particular program						2	3	3		08
Vocational and Skill Enhancement Course (VSEC)	Skill Courses		2	1	1	2	2			08
Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	1	1			2				04
Entrepreneurship/Economics/Management Courses				2	2					04
Indian Knowledge System (IKS)		2								02
Value Education Course (VEC)				2	2					04
Research Methodology	Experiential Learning Courses								4	04
Comm. Engg. Project (CEP)/ Field Project (FP)					2					02
Project							2	2		04
Internship/OJT									12	12
Co-curricular Courses (CC)	Liberal Learning Courses	2	2							04
Total Credits (Major)		20	160							

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 INFORMATION TECHNOLOGY

GROUP I : SEMESTER I

Sr. No.	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks					No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	Minimum Passing Marks	
1	BSC	25IT101T	Engineering Chemistry	2	-	-	2	10	10	30	50	23	1.5
2	BSC	25IT101P	Engineering Chemistry Lab	-	-	2	1	-	25	25	50	25	-
3	BSC	25IT102T	Linear Algebra and Calculus	3	-	-	3	20	20	60	100	45	3
4	BSC	25IT102P	Linear Algebra and Calculus Lab	-	-	2	1	-	25	25	50	25	-
5	ESC	25IT103T	Fundamentals of IT	3	-	-	3	20	20	60	100	45	3
6	ESC	25IT104T	Logic building with C	2	-	-	2	10	10	30	50	23	1.5
7	ESC	25IT104P	Logic building with C Lab	-	-	2	1	-	25	25	50	25	-
8	PCC	25IT105P	Software Lab - I	-	-	4	2	-	25	25	50	25	-
9	AEC	25IT106P	Business Communication Skills-I Lab	-	-	2	1	-	25	25	50	25	-
10	IKS	25IT107T	Indian Knowledge Systems #	2	-	-	2	10	10	30	50	23	1.5
11	CC	25IT108T	Co-curricular Courses - I	2	-	-	2	-	50	-	50	23	-
Total				14	-	12	20	70	245	335	650	-	-

Course to be conducted online through NPTEL

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

GROUP I : SEMESTER II

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks					No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	Minimum Passing Marks	
1	BSC	25IT201T	Engineering Physics and Materials Science	2	-	-	2	10	10	30	50	23	1.5
2	BSC	25IT201P	Engineering Physics and Materials Science Lab	-	-	2	1	-	25	25	50	25	-
3	BSC	25IT202T	Statistics and Probability	3	-	-	3	20	20	60	100	45	3
4	BSC	25IT202P	Statistics and Probability Lab	-	-	2	1	-	25	25	50	25	-
5	ESC	25IT203T	Object Oriented Programming	3	-	-	3	20	20	60	100	45	3
6	ESC	25IT203P	Object Oriented Programming Lab	-	-	2	1	-	25	25	50	25	-
7	ESC	25IT204T	Digital Logic Design	2	-	-	2	10	10	30	50	23	1.5
8	PCC	25IT205P	Software Lab - II	-	-	4	2	-	25	25	50	25	-
9	AEC	25IT206P	Business Communication Skills-II Lab	-	-	2	1	-	25	25	50	25	-
10	SEC	25IT207T	Design Thinking #	2	-	-	2	10	10	30	50	23	1.5
11	CC	25IT208T	Co-curricular Courses – II	2	-	-	2	-	50	-	50	23	-
Total				14	-	12	20	70	245	335	650	-	-

Course to be conducted online through NPTEL

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 INFORMATION TECHNOLOGY

SEMESTER III

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks					No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	Minimum Passing Marks	
1	PCC	25IT301T	Discrete Mathematics	3	-	-	3	20	20	60	100	45	3
2	PCC	25IT302T	Data Structure	3	-	-	3	20	20	60	100	45	3
3	PCC	25IT302P	Data Structure Lab	-	-	4	2	-	25	25	50	25	-
4	PCC	25IT303T	Computer Network	3	-	-	3	20	20	60	100	45	3
5	PCC	25IT303P	Computer Network Lab	-	-	2	1	-	25	25	50	25	-
6	PCC	25IT304P	Software Lab - III	-	-	2	1	-	25	25	50	25	-
7	VEC	25ES301T	Constitution of India	2	-	-	2	10	10	30	50	23	1.5
8	HSSM	25ES302T	Fundamentals of Entrepreneurship	2	-	-	2	10	10	30	50	23	1.5
9	SEC	25IT341P	Career Development- I	-	-	2	1	-	50	-	50	25	-
10	MDM	25IT331M	MDM-I (Refer MDM basket)	2	-	-	2	10	10	30	50	23	1.5
Total				15	-	10	20	90	215	345	650	-	-

Note – Any one PCC to be conducted online through NPTEL. The course will be notified one month prior to commencement of semester.

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

SEMESTER IV

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks					No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	Minimum Passing Marks	
1	PCC	25IT401T	Computer Architecture and Organization	2	-	-	2	10	10	30	50	23	1.5
2	PCC	25IT402T	Java Programming	3	-	-	3	20	20	60	100	45	3
3	PCC	25IT402P	Java Programming Lab	-	-	2	1	-	25	25	50	25	-
4	PCC	25IT403T	Operating System	3	-	-	3	20	20	60	100	45	1.5
5	PCC	25IT404P	Software Lab - IV	-	-	2	1	-	25	25	50	25	-
6	VEC	25ES401T	Environmental Science	2	-	-	2	10	10	30	50	23	1.5
7	HSSM	25ES402T	Fundamentals of Economics and Management	2	-	-	2	10	10	30	50	23	1.5
8	SEC	25IT441P	Career Development - II	-	-	2	1	-	50	-	50	25	-
9	CEP	25IT407P	Mini Project *	-	-	4	2	-	50	-	50	25	-
10	MDM	25IT431M	MDM-II (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
Total				15	-	10	20	90	240	320	650	-	-

*Field Project or Community engagement project in the major discipline.

Note – Any one PCC to be conducted online through NPTEL. The course will be notified one month prior to commencement of semester.

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

SEMESTER V

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks					No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	Minimum Passing Marks	
1	PCC	25IT501T	Data Base Management System	3	-	-	3	20	20	60	100	45	3
2	PCC	25IT501P	Data Base Management System Lab	-	-	2	1	-	25	25	50	25	-
3	PCC	25IT502T	Theory of Computation	3	-	-	3	20	20	60	100	45	3
4	PEC	25IT503T	Professional Elective – I (Refer PE basket)	2	-	-	2	10	10	30	50	23	1.5
5	PEC	25IT504T	Professional Elective – II (Refer PE basket)	2	-	-	2	10	10	30	50	23	1.5
6	VSC	25IT505P	Technical Skill Development - I	-	-	4	2	-	50	-	50	25	-
7	AEC	25IT541P	English for Engineers	-	-	4	2	-	50	-	50	25	-
8	MDM	25IT531M	MDM – III (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
9	OE	25IT561O	Open Elective – I (Refer OE basket)	2	-	-	2	10	10	30	50	23	1.5
Total				15	-	10	20	90	215	295	600	-	-

Note – Any one PCC/PEC to be conducted online through NPTEL. The course will be notified one month prior to commencement of semester.

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

SEMESTER VI

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks					No of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	Minimum Passing Marks	
1	PCC	25IT601T	Design and Analysis of Algorithms	3	-	-	3	20	20	60	100	45	3
2	PCC	25IT601P	Design and Analysis of Algorithms Lab	-	-	2	1	-	25	25	50	25	-
3	PEC	25IT602T	Professional Elective – III (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
4	PEC	25IT603T	Professional Elective – IV (Refer PE basket)	3	-	-	3	10	10	30	50	23	1.5
5	VSC	25IT604P	Technical Skill Development -II	-	-	4	2	-	50	-	50	25	-
6	PROJ	25IT605P	Project - I	-	-	4	2	-	50	50	100	25	-
7	MDM	25IT631M	MDM – IV (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
8	OE	25IT661O	Open Elective – II (Refer OE basket)	3	-	-	3	20	20	60	100	45	3
Total				15	-	10	20	90	215	345	650	-	-

Note – Any one PCC/PEC to be conducted online through NPTEL. The course will be notified one month prior to commencement of semester.

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

SEMESTER VII

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks					No of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	Minimum Passing Marks	
1	PCC	25IT701T	Information and Cyber Security	3	-	-	3	20	20	60	100	45	3
2	PCC	25IT701P	Information and Cyber Security Lab	-	-	2	1	-	25	25	50	25	-
3	PEC	25IT702T	Professional Elective – V (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
4	PEC	25IT703T	Professional Elective – VI (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
5	PCC	25IT704P	Software Lab - V	-	-	4	2	-	25	25	50	25	-
6	PROJ	25IT705P	Project - II	-	-	4	2	-	50	50	100	25	-
7	MDM	25IT731M	MDM – V (Refer MDM basket)	3	-	-	3	20	20	60	100	45	3
8	OE	25IT761O	Open Elective – III (Refer OE basket)	3	-	-	3	20	20	60	100	45	3
Total				15	-	10	20	100	200	400	700	-	-

Note – Any one PCC/PEC to be conducted online through NPTEL. The course will be notified one month prior to commencement of semester.

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

SEMESTER VIII

Option A

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Mid-Sem Examination	Maximum Marks			Minimum Passing Marks	No of Hours for ESE
				L	T	P			Continual Assessment	End Sem Examination	Total		
1	RM	25ES801T	Research Methodology#	2	-	-	2	10	10	30	50	23	1.5
2	RM	25ES801P	Research Methodology Lab#	-	-	4	2	-	25	25	50	25	-
3	PEC	25IT802T	Professional Elective – VII # (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
4	PEC	25IT802P	Professional Elective – VII Lab # (Refer PE basket)			2	1	-	25	25	50	25	
5	OJT	25IT803P(i)	Industry / Research Internship *	-	-	24	12	-	300	100	400	200	-
Total				5	-	30	20	30	380	240	650	-	-

Option B

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Mid-Sem Examination	Maximum Marks			Minimum Passing Marks	No of Hours for ESE
				L	T	P			Continual Assessment	End Sem Examination	Total		
1	RM	25ES801T	Research Methodology#	2	-	-	2	10	10	30	50	23	1.5
2	RM	25ES801P	Research Methodology Lab#	-	-	4	2	-	25	25	50	25	-
3	PEC	25IT802T	Professional Elective – VII # (Refer PE basket)	3	-	-	3	20	20	60	100	45	3
4	PEC	25IT802P	Professional Elective – VII Lab # (Refer PE basket)			2	1	-	25	25	50	25	
5	OJT	25IT803P(i)	Institute Internship and Project-III*	-	-	24	12	-	300	100	400	200	-
Total				5	-	30	20	30	380	240	650	-	-

Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards IT career development plan of the students.

Courses to be mapped with NPTEL/SWAYAM/MOOC offered course in that semester. Exam will be conducted by NPTEL/Institute.

* One Semester internship in any industry to be carried out.

§ Two NPTEL courses of total 6 credit (as per choice of student) or Institutional Internship by IEDC, SVP CET.

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



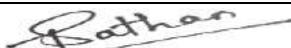
ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 INFORMATION TECHNOLOGY

A. Basket for Multi-Disciplinary Minor Courses (MDM)

Semester	Course Category	Course Code	Name of Course	Credit
III	MDM-I	25IT331M	Fundamentals of Cloud Computing	2
IV	MDM-II	25IT431M	Cloud Platforms and Services	3
V	MDM-III	25IT531M	Cloud Applications and Development	3
VI	MDM-IV	25IT631M	Data Analytics	3
VII	MDM-V	25IT731M	Data Visualization and Techniques	3

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

B. Basket for Program Elective Courses (PEC)

Semester	Course Category	Course Code	Name of Course	Credit
V	PEC-I	25IT503T(i)	Software Engineering and Project Management	2
V	PEC-I	25IT503T(ii)	Advance Computer Network	2
V	PEC-I	25IT503T(iii)	Gaming Architecture and Programming	2
V	PEC-II	25IT504T(i)	Advance Operating System	2
V	PEC-II	25IT504T(ii)	Blockchain Technology	2
V	PEC-II	25IT504T(iii)	Computer Graphics and Animation	2
VI	PEC-III	25IT602T(i)	Cloud Computing	3
VI	PEC-III	25IT602T(ii)	Data Warehousing and Mining	3
VI	PEC-III	25IT602T(iii)	Digital Forensic	3
VI	PEC-IV	25IT603T(i)	Artificial Intelligence and Machine Learning	3
VI	PEC-IV	25IT603T(ii)	Introduction to Data Science	3
VI	PEC-IV	25IT603T(iii)	Introduction to Soft Computing	3
VII	PEC-V	25IT702T(i)	Big Data Analytics	3
VII	PEC-V	25IT702T(ii)	Introduction to IoT	3
VII	PEC-V	25IT702T(iii)	Computer Vision	3
VII	PEC-VI	25IT703T(i)	Deep Learning	3
VII	PEC-VI	25IT703T(ii)	Digital Image Processing	3
VII	PEC-VI	25IT703T(iii)	IoT DevOps	3
VIII	PEC-VII	25IT802T(i)	Introduction to Large Language Model	3
VIII	PEC-VII Lab	25IT802P(i)	Introduction to Large Language Model Lab	1
VIII	PEC-VII	25IT802T(ii)	Natural Language Processing	3
VIII	PEC-VII Lab	25IT802P(ii)	Natural Language Processing Lab	1
VIII	PEC-VII	25IT802T(iii)	Business Intelligence & Analytics	3
VIII	PEC-VII Lab	25IT802P(iii)	Business Intelligence & Analytics Lab	1

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



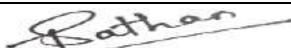
ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26 INFORMATION TECHNOLOGY

C. Basket for Open Elective Courses (OE)

Semester	Course Category	Course Code	Name of Course	Credit
V	OE-I	25IT661O (i)	Ethics in Information Technology	2
V	OE-I	25IT661O (ii)	Introduction to Software Engineering and Project Management	2
VI	OE-II	25IT761O(i)	Computer Animation	3
VI	OE-II	25IT761O(ii)	Web Development	3
VII	OE-III	25IT761OT(i)	Introduction to Database Management System	3
VII	OE-III	25IT761O(ii)	Basics of Cloud Computing	3

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	



ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

B. Tech. Scheme of Examination & Syllabus 2025-26

INFORMATION TECHNOLOGY

EXIT OPTIONS

Award of UG Certificate in Major with 40 credits and an additional 8 credits (After First Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Programming In Modern C++	Online-Swayam	4
2	Programming Data Structures and Algorithms Using Python	Online-NPTEL	4

Award of UG Diploma in Major with 80 credits and an additional 8 credits (After Second Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Programming In Java	NPTEL	4
2	Internship	Offline/Online	4

Award of UG Degree in Major with 120 credits and an additional 8 credits (After Third Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Cyber Security	Online-Swayam	4
2	Internship	Offline/Online	4

		July 2025	3.0	Applicable for 2025-26
Chairman - BoS	Dean – Academics	Date of Release	Version	